Claim 1 of 10

These claims, and the specifications and drawings before, define the invention as a new human computer interaction process comprised of the following steps and procedures: new techniques to organize and use data histories **(3.34)** to place data in context **(A1) (B.32) (B3.7)** [**Fig. 1 to 10**] **(1.1) (1.23) (2.3) (3.1) (3.3) (3.6 and 3.7) (3.10) (3.12 and 3.13) (3.18) (3.20) (3.37) (6.8) (7.2) (7.8 to 7.12) (7.28) (7.31) (7.33) (7.41) (8.2 and 8.3) (8.18) (9.2) (9.4) (9.11) (10.2)**, which provides a new form for data arrangements **(A1) (B1.2) (B1.5) (B3.2) (B3.7) (D1)** [**Fig. 2 to 10**] **(1.12) (1.24) (2.1) (2.7) (3.3 and 3.4) (3.9) (3.12) (4.5 and 4.6) (4.14) (7.2) (7.4) (7.14)**, and a new format for data descriptions **(B3.7) (2.2) (2.8) (3.20) (3.24)** used in shared dynamic time dependent complex data collections **(B1.4) (1.9) (3.7) (6.7) (8.5) (9.8) (9.17)**. The invention is used to draw the geometry of knowledge as it changes over time **(A1)** [**Fig. 3**]. The pace and record of these changes is represented by mathematical configurations, or "knots of information". When the space around these knots changes, so does the interpretation of the information itself **(1.2)**, likewise, when the interpretation changes the patterned "space around" will be changed. Mapping this back and forth process [**Fig. 6, 7 and 8**] over time [**Fig. 2, 3 and 4**] is one way the invention is used to interpret, manage and selectively preserve records of human knowledge. Data and data collections are mapped, organized, searched and interpreted using sets of "knowledge patterns" also called "filters" and "templates" **(B1.5)** [**Fig. 10**] **(2.3) (3.35) (7.40)**. A second "opposite" and "related" set of "display patterns" **(C1) (3.21) (3.23) (3.27) (7.1 to 7.50) (8.3) (9.1 and 9.2) (9.5) (9.10) (9.21)** are used to subsequently transform and simplify each data arrangement even further to be displayed through an evolving automatic language of light and sound **(7.5) (9.2) (10.2)**, textures [**Fig. 7**] **(1.23)**, colors **(7.28 and 7.29) (7.39) (7.43) (7.48)** and forms **(A1) (B1.5) (B3.2 and B3.3) (C1) (D1)** [**Fig. 6**] [**Fig. 10**] **(1.24) (2.1) (3.4) (3.9) (3.11) (3.13) (3.20) (7.2) (7.38 and 7.39) (7.43) (9.6) (9.13 and 9.14)** that continually update and evolve into new generations of knowledge and display patterns. People's knowledge **(A1) (B1 to B3) (C)** [**Fig. 1 to 10**] **(7.1 to 7.49)**, awareness, abilities to perceive, measure and question meaning in data and data arrangements is used to change and develop these mathematical patterns over time. The invention applies mathematical topology, algebra and new pattern generation and recognition techniques to digital information context to see how ideas and concurrent or conflicting views **(Claim 4)** become entangled, can be separated from their background, recognized differently from different points of view, interrelated, and influenced over time **(1.1)**. The invention is used to discuss new versus old ideas, draw new conclusions **(B1.1 and B1.2) (B3.2) (7.1) (7.30) (7.47) (8.16)**, create new mathematical relationships and new conceptual associations **(1.4)** perceived and used in the following states: as scale free configurations connecting and placing data components in data arrangements **(B1.2) (D1)** [**Fig. 6,7,8 and 10**] **(1.2) (3.18) (3.28) (6.6 and 6.7) (7.12) (7.18) (7.33 and 7.34) (7.36) (7.39 and 7.40) (8.3) (8.14) (8.18) (8.20) (9.4 and 9.5) (9.15)**; as symbols that map the history of hierarchy placements within each component's mathematical

description (B1.2) (B3.4) (D1) [Fig. 10] (2.1 and 2.2) (3.7) (3.10 to 3.14) (3.18) (3.20) (3.23 to 3.26) (3.31 to 3.33) (3.37 and 3.38) (4.4) (4.9) (4.17) (7.1) (7.32) (7.35) (7.39 and 7.40) (8.3) (8.18) (9.3) (10.2); and as multidimensional waveforms used to distribute, streamline and consolidate these patterns and forms over time (A1) (B1.2) (B1.5) [Fig. 10] (D1) (1.24) (3.11) (3.26) (4.1 to 4.18) (7.4 and 7.5) (7.39) (9.3). Context Driven Topologies remain mathematically the same and recognizable regardless of whether they are being used in the configuration, symbol or waveform state. Context Driven Topologies in the symbol state (Section 3) are used to trace (B1.4) (B3.2) [Fig. 6] (1.4) (3.7) (3.10) (3.12) (3.26) (5.1) (7.14) histories of previous context and associations originating deep in the background (A1) (1.5) (7.32) to gently "push" (7.1) (7.26) (9.21), precisely align (B1.4) (D1) [Fig. 8] (1.23) (3.3) (3.7) (3.31) (4.17) (9.5) (9.7) (10.2) and lock the relative proportion (A1) (B1) (B3) [Fig. 2, 6 and 7] (3.8) (3.27) (3.36) (4.14) (5.3) (6.7) (7.15) (7.34) (7.36) of data and data arrangements into groups. Context Driven Topologies form a new kind of data collection composed of a new kind of objects and spaces used to map and understand complex data and data collections in both smaller groups (A1) (B1.2) (B1.5) [Fig. 8] (D1) (1.4) (1.23) (2.3) (2.4 and 2.5) (2.7) (2.9 to 2.12) (3.2) (3.11) (3.15 to 3.17) (3.22) (3.28) (4.11 and 4.12) (5.4) (6.3) (6.7 and 6.8) (7.1) (7.6 and 7.7) (7.17) (7.31 to 7.33) (8.2 and 8.3) (8.6) (8.11 and 8.12) (8.19) (9.6) (9.11) and larger overalls (B3.6) (1.10 and 1.11) (2.3) (7.25 and 7.26) (7.28) (7.38) (9.1) (9.12) than are currently available. Current data relationships, network topologies and data stores (even dynamic data stores) are typically in even arrangements with equal, practically interchangeable components geared for machine processing rather than the fluid, variable human imagination and investigation process. This is claimed by the inventor to be caused by an overdependence on electrical pulses. The inventions mathematical memory patterns are more suited to continuous patterned waveforms, similar to existing radio or cell phone technology, rather than electrical pulses. The invention is intended be independent of electricity and electrical pulses (1.24) (Section 4) (Claim 2). Existing technology does not allow data or data relationships to vary, characterize over time, or appear as one whole (A1) [Fig. 3 to 5] 91.3) (3.5) (3.10) (4.3) (4.6) (5.7) (7.28) (7.32 and 7.33) (7.39) (8.3) (8.11) 8.24) (9.6). The invention measures changes in mathematical patterns constructed for temporal reasons where aesthetics (A1) (B3.5) [Fig. 6] (7.50) (8.13) (9.1), proportion (B1.4) (B3.6)(7.38) (9.5) (10.6), "pace" or flow (B3.2) [Fig. 2] (1.21) (3.11) (3.26) (4.12) (Section 6) (7.3) (7.5) (8.3), proximity [Fig. 6] (3.10) (6.2) (6.3) (7.7) (7.12) and density (1.24) become typical, comparable measurements. Context Driven Topologies reside in a boundless abstract cloud, also called a "stateless space" [Fig. 1] (3.27) (4.7 to 4.9) (4.14) (4.18) 6.3) (6.9) (7.45) (8.1) (8.3) (8.11) (8.18) (9.1 and 9.2) accessible to any number of users. Mathematically perfect copies (9.4) are handed down from generation to generation. The intention of these claims, drawings, specifications and patent is to protect the core principles of the inventor's idea, the inventor's techniques, processes and steps disclosed, and to have greater control over ways the invention and its intended purpose is implemented in the future through the following steps (C) [Fig. 6] (1.25) (2.13) (3.38) (4.18) (6.10) (7.49) (8.26) (9.22) (10.1 to 10.14).

Claim 2 of 10

Because of the steps and processes throughout these drawings, specifications and Claim 1, Context Driven Topologies will initially be "powered" by use, similar to passing stories and songs across generations or propagating information across the internet **(B1.5) (B2.2) (D1) (1.21) (3.19) (8.17) (8.24)** therefore, the invention and the purpose of the invention, is independent of electricity **(1.24) (Claim 1)**. I further claim the inventions mathematical patterns, processes and uses for long term data curation and digital preservation **(9.1 to 9.22)** will also allow this organized and preserved knowledge to be independent of unstable media **(1.1 to 1.25) (Claim 2)** and changing natural and machine languages **(3.32)**. The intended life span of the knowledge and display patterns **(Claim 1)** interpreted and managed using the invented process is no less than 1,000 years **(7.12)**. It is critically important to know this claim, steps and processes include the human decision, evaluation and review process over time to selectively delete data and data arrangements that are not cohesive **(2.10) (3.9) (5.6) (7.28)**, valuable **(B3.7) [Fig. 5] (1.15) (2.6) (4.14) (7.2) (7.16) (7.19 and 7.20) (7.24 and 7.25) (7.33) (8.13) (10.10)**, true **(B2.2) (1.6 and 1.7) (2.4 to 2.6) (7.23) (7.47) (8.3)**, interesting **(1.5) (1.18) (7.3) (7.23) (8.13) (8.24) (9.9)**, attached to or sharing significant histories **(A1) [Fig. 6] (1.5) (1.21) (3.13) (3.25) (3.33) (4.18) (6.6) (7.11) (7.16) (7.32) (7.45) (8.3) (8.7) (8.9) (8.11) (9.15) (Claim 1)** with other data and data arrangements. Non-relevant, non-valuable, potentially misleading, out of date and incorrect information is removed from dynamic shared data stores through a shared continuous discussion and interpretation forum that uses a shared memory **(8.1 to 8.26)** area within the stateless space **(Claim 1)**. These actions and this process will streamline **(1.7)** complex data collections, automatically organize shared data stores **(1.7) (9.1)** and make complex collections easier for people to look through. I claim existing machine protocols and languages **(3.32)**, unstable media **(D1) [Fig. 6] (1.15 and 1.16) (2.5) (8.18) (9.2)** and the parade of machines currently accepted as an unfortunate, but irreconcilable, part of the information age **(1.25)** is unnecessarily divisive and detrimental to long term digital preservation and international research and communications across cultures and domains **(1.1 to 1.25)**. I further claim the year 2004 is the dawn of a new connected age **(10.14)** with incredible potential **(1.22)** where communications should not be hampered by electricity **(1.24) (8.17 and 8.18)**, media, changing machines **(7.3) (7.12) (8.3)** and different natural and machine languages **(3.32)**. The kind of data and data arrangements understood through Context Driven Topologies involve imagination **(B3.2) (1.13) (1.24 and 1.25) (2.10) (4.17) (7.27) (7.30) (9.2) (9.6)**, visualization **(B3.2) [Fig. 6] (1.21) (3.2) (3.23) (7.5) (7.8) (7.27) (7.44) (10.1) (10.8)**, and patterns that constructed in a place **(7.8)** where natural language is no longer useful, media is immaterial, and machine languages may be able to be changed to understand the expressions, reasons and investigations captured by the invention over time through the following steps **(1.25) (2.13) (3.38) (4.18) (6.10) (7.49) (8.26) (9.22) (10.1 to 10.14) (Claim 10)**.

Because of the steps and processes in Claims 1 and 2, I claim the invention will typically transform (D1) (1.21) (3.21) (4.1 and 4.2) (4.4) (4.11) (4.17 and 4.18) (5.4 and 5.5) (7.1) (9.5) (9.21) (10.1) (Claims 1 and 2) and present knowledge and knowledge objects differently than it was originally captured and recorded. The invention is a consistent method (B3.2) (B3.6) (C1 to C7) (D1) (1.6) (2.9 and 2.10) (6.9) (7.12) (7.30) (7.44) (8.3) (9.4) (10.2) (10.11) (Claims 1 and 2) for an unlimited (7.37) (8.14), changing (B1.4) (B1.5) (B3.2) [Fig. 6] (1.12) (1.20) (3.9) (4.1) (7.37) (7.40) (8.3) (9.2) (9.15) series of users, media and machines to automatically (D1) [Fig. 6] [Fig. 8] (1.4) (1.17) (2.1) (3.21) (4.13) (5.6) (7.7) (7.14) (7.26) (8.3) 98.12) (8.17) (9.4 and 9.5) (Claims 1 and 2) and always defer to higher quality (A1) (D1) (C7) [Fig. 6] (1.6) (1.11) (1.18) (3.27 and 3.28) (7.5) (7.37) (8.11) (9.4) (10.13), denser (3.2) (7.26), more original (B3.7) [Fig. 6] (1.19) (1.22) (2.3) (2.6 and 2.7) (2.10) (3.12) (3.24) (4.6) 4.12) (5.6) (7.9 and 7.10)) (7.37) (7.40) (7.42) (8.3) (8.18) (9.4) (9.8) (Claim 3), authentic (2.2) (8.3) (8.24) (9.2) (9.14) (10.1) original information held in a placeholder position (2.6) (2.10) (3.14) (3.26) (7.21) (10.8) accessed through the steps indicated in (1.25) (2.13) (3.38) (4.18) (6.10) (7.49) (8.26) (9.22) (10.1 to 10.14). This claim includes priority addressing (6.1 to 6.10) (7.7) (10.1) and mapping to master recordings (10.4); high resolution still and moving imagery (7.5); partially interpreted (B2.2) (B3.2) [Fig. 6] (1.23) (3.1) (7.18) or raw results (2.6) (3.24) (10.13); current locations (9.13) (10.1) (10.6) (10.12) of genuine events, objects and living beings; purely mathematical relationships and other ideas that can be represented, described, associated and derived with machines using the invented processes (1.25) (2.13) (3.38) (4.18) (6.10) (7.49) (8.26) (9.22) (10.1 to 10.14) to evaluate, maintain and preserve dynamic complex data collections over longer periods of time than a person, research group, entire field of study, or machine's lifetime.

> **Definition:** The word "Machine" as it is used throughout these claims and specifications is intended to mean a computer with a life expectancy of five to ten years - including an operating system or platform (ex. Mac or PC) that may be incompatible with other systems or platforms, various shared and specialized software with a life expectancy of one to three years, and an internet connection equal to current DSL or Broadband. The word "Machines" as it is used in these specifications is intended to mean advanced networks of machines that change and improve over one person, research group, or entire field of study's lifetime.

Claim 4 of 10

I claim the invention will eliminate redundant (1.4) (3.12) (3.31) (4.15) (10.1), out of date, misleading and incorrect data and data arrangement from dynamic shared data stores by isolating and identifying non-original copies and non-meaningful variations within datasets using user defined similarity measures, also described throughout these specfications as "the same" (B3.2) (D1) [Fig. 6] [Fig. 10] (1.4) (1.9) (2.3) (2.12) (3.3) (3.10) (3.12) (3.16) (3.18) (3.20) (3.30 and 3.31) (4.6) (4.18) (5.1 to 5.7) (7.1 and 7.2) (7.40) (8.2 and 8.3) (8.20)

(9.4) (9.11) (10.1) (10.6) (10.14) to automatically mask, eliminate and conceal excess information using these related patterns to map back and forth [Fig. 8] (3.10) (3.21) (7.13) (7.22) (7.26) (7.30) (8.3) (8.22) (9.15) (10.6) until the redundant, misleading or incorrect information, ideas and techniques (9.1 to 9.22) are exposed and removed in both the users current data arrangement and across more levels over longer periods of time (1.1 to 4.18) and (7.1 to 7.50). These templates, also called the "knowledge and display patterns" (7.1 to 7.4) (Claim 1), act as known "opposite" or "rotated" topologies to expose and combat specifically redundant, false or misleading information (1.7) (1.15) (2.5) (7.18) as defined by people who understand and use this information by realistically accommodating concurrent and conflicting interpretations (D1) (1.7) (2.5) (7.30) (10.4) and getting these data descriptions and data components to influence and eventually cancel each other over time. I claim that people who create and interpret complex data and data arrangements understand this knowledge and these knowledge objects the most clearly and therefore should be the ones who decide and define which data and data arrangements are interesting, correct, unique and worth preserving for further contemplation using new knowledge and new machines in the future. These steps and processes are also referred to throughout these specifications as "streamlining" (1.4) (1.7) (10.6). The invention will cause data and data relationships to characterize (B3.2) (3.25), automatically become more organized, cluster (B3.2) (3.25) (5.3) (7.12) in dynamic shared data stores and generally become more authenticated as it is evaluated from more points of view over longer periods of time. For readers familiar with problems of redundant, misleading, out of date or incorrect information, the implications of this claim are obvious.

Claim 5 of 10

Because of the steps, processes and applications outlined in (Claims 1 to 4), the invention has a real world value (B3.7) (1.25) (10.1 to 10.14) by clarifying the roles of human creative and conceptual abilities versus the computational skills of machines as summarized in (1.25) (2.13) (3.38) (4.18) (6.10) (7.49) (8.26) (9.22). The invention will help us (1.23) (7.18) (9.4) (9.11) (9.21), as individuals and a global society to decide (2.8) (3.1) (6.6) (7.10) (7.35 and 7.36) (7.41) (7.44) (8.6) which data and data arrangements are important, accurate and worth keeping (3.12) (8.6) (8.20) (Claim 4). New and conceptual associations are made by people and advanced networks of machines over time using Context Driven Topologies and the virtual "bridges" constructed following the steps in (A1) (B1 to B3) (C1) (D1) [Fig. 1 to Fig 10] (1.1) (1.5) (1.10 and 1.11) (1.19 to 1.23) (2.2 and 2.3) (2.7) (3.5) (3.7) (3.11 and 3.12) (3.19 to 3.22) (3.24) (3.26) (3.28 o 3.31) (3.35) 94.14) (6.6 to 6.8) (7.1) (7.3 and 7.4) (7.9 and 7.10) (7.14 and 7.15) (7.18) (7.22) (7.26 and 7.27) (7.30 and 7.31) (7.33) (7.38 and 7.39) (7.49 and 7.50) (8.3 and 8.4) (8.9) (8.12) (8.20) (8.23 and 8.24) (9.1 and 9.2) (9.5 to (.8) (9.11) (9.13) (9.15 and 9.16) (10.5 and 10.6) (10.14) and (Claims 1 to 4) These new bridges and the affect of the concurrent and conflicting viewpoints in (Claim 4) lead to a portrait of new ideas and changes to historical comprehension over time so people using the invention can also use these historical ideas and changes to decipher, comprehend, unravel and solve new kinds of problems. The primary use for

the invention today is to organize and interpret museum and library digitization **(1.6) (10.1)**; data generated by automated scientific experiments **(1.6) (10.4) (10.7 and 10.8)**; security **(8.3) (9.14) (10.6) (10.12)**; and to promote a clearer **(8.9)**, more meaningful understanding of each other, our environment, the natural world around us **(10.14)**, American **(2.5)**, global and future societies **(B3.5)**, and to stay current with the status of our individual and shared knowledge **(4.10) (4.14) (5.7) (7.21) (7.27) (7.30) (9.2)(Claim 4)**.

Claim 6 of 10

I claim the steps and processes enumerated summarized and enumerated in **(1.25) (2.13) (3.38) (4.18) (6.10) (7.49) (8.26) (9.22)** and **(Claims 1 to 5)** will show users of the invention new kinds of objects that exhibit new kinds of associations, expressed through a new kind of mathematics **(B2.2) (B3.1) (D1) [Fig. 6] [Fig. 10] (2.1) (3.31) (6.9) (7.12) (7.34) (8.24) (9.11) (10.7 and 10.8) (10.14)**, a new language of sounds and images **(7.1 to 7.50)** and other techniques. I claim the way that data and data arrangements are configured, described, identified, derived and extracted from dynamic shared data stores **[Fig. 1] [Fig. 2]** is dependent on the users knowledge, the era which they live in, the machines and networks they are using and they way each user or group of users is looking at this data and data arrangements **[Fig. 6] (1.6) (1.20) (3.2) (4.12) (4.15) (5.3) (5.6) (7.19) (7.23) (7.27) (7.30) (7.38) (9.7) (10.6)**. The invention is not an abstract idea or mere arrangement of data, because of the invention, we will understand more about fluidity, shapes, objects and spaces **[Fig. 5] (9.13)**, we will also understand more, and be forced into new ways to draw, different elements becoming mixed or separated **(10.8)**. By comparing shapes, objects, spaces, arrangements, sequences, theories and ideas we do not understand **(3.11) (Claim 5)** with ideas and knowledge we do understand, the invention will allow users to draw some parallels and achieve clarification **(3.15) (6.9) (8.5)** and increased understanding that is currently not possible without the invention. I further claim that because of this increased understanding, Context Driven Topologies generated by the invention and perpetuated through people's investigations will become like objects **(3.12)** people will form attachments to **(B3.7) (2.8)** and begin to prefer certain patterns and forms over others which will affect human perception **(B3.5) [Fig. 10] (3.31)**, aesthetics **(7.23) (7.34) (7.50)**, and performance requirements for our media and machines particularly as enumerated in **(Sections 6 to 10)** and **(Claim 10 of 10)** below.

Claim 7 of 10

I claim that because of the better organization, better descriptions and more realistic annotation system disclosed throughout these specifications and Claims 1 to 6 above, the invention is a better, more continuous **(A1) (1.24) (3.2) (3.4) (3.34) (4.1 to 4.3) (4.16) (7.28) (7.40) (7.49) (8.13) (9.3) (9.6)**, fluid form **(D1) (1.24) (10.7 and 10.8) (Claim 6)** of metadata **(B3.2) (2.3) (2.9) (7.17) (7.27) (10.2)** and mapping comprised of the steps summarized in **(C) [Fig. 6] (1.25) (2.13) (3.38) (4.18) (6.10) (7.49) (8.26) (9.22) (10.1 to 10.14)**. I specifically claim that current metadata methods rely too heavily on text without providing mechanisms for

translation (B2.2) (B3.4) [Fig. 6] (5.6) (10.1) (10.2), cultural interpretation (1.20) (7.25) (9.1), or change and variation in word meaning (B3.4) (10.2) over time. I claim the invention is a more reliable (1.18) (2.5) (6.9) (7.18) (7.20) (9.2) (9.14), accurate (A1) (1.18) (2.2) (2.4) (2.6) (3.12) (4.14) (5.1) (8.3) (8.18) (9.1) (9.9) (Claim 5) and subtle [Fig. 6] (10.2) method to communicate (B3.4) [Fig. 7] (2.1) (3.13) (9.2) (9.11) at concrete and abstract (B1.4) (B3.5) (C7) (D1) (3.5) (3.8) (3.19) (4.18) (7.28) (7.38) (7.44) (8.4) (9.10) levels which will enable our shared designs, mathematics, studies, investigations, stories and curiosities to advance and be expressed in ways we could not have imagined before (Claim 8).

Claim 8 of 10

I claim the invention will give machines something to measure that is closer to the way people think, imagine and work. These measurements are comprised of the techniques, process and steps specified in (B3.7) (C1 to C7) [Fig. 6] (1.1) (1.19) (1.23) (2.2) (2.6) (2.9 and 2.10) (3.6) (3.13) (3.15) (3.27) (6.9) (7.1) (7.8) (7.16) (7.21) (7.26 and 7.27) (7.30 and 7.31) (7.44) (8.3) (8.23 and 8.24) (9.2) (9.4) (9.11) (9.15) (10.4) (10.6)

Claim 9 of 10

All of the claims, specifications, drawing, descriptions and steps are interdependent and related. The purpose of these claims, specifications, drawings, descriptions and steps is to particularly point out and distinctly claim the invention as it compares to other existing and future inventions (B1 to B3), and to protect the right to develop the inventions future technologies (Claims 1 to 10). Each of these claims is directly related to mathematical operation steps of a process as disclosed in (A1) (B1.4) (B1.5) (B2.2) (B3.1) (C1) (D1) [Fig. 3] [Fig. 6] [Fig. 7] [Fig. 8] [Fig. 10] (1.1) (1.4 and 1.5) (1.17) (1.20 and 1.21) (1.24) (2.1 to 2.3) (2.13) (3.2) (3.7) (3.10 and 3.11) (3.18) (3.20) (3.26) (3.31) (3.34) (4.5) (4.9) (4.11 to 4.13) (4.15) (4.18) (6.2) (6.4) (6.9) (7.1) (7.3) (7.12) (7.15 to 7.18) (7.25 and 7.26) (7.31) (7.33 and 7.34) (7.39) (7.42 to 7.44) (7.47 to 7.49) (8.2 and 8.3) (8.18) (8.24) (9.1 to 9.3) (9.6) (9.11 and 9.12) (9.20 and 9.21) (10.7 and 10.8) (10.10 and 10.11) (10.14). These written descriptions, claims and drawings are intended by the inventor to be an enabling and complete disclosure to protect this idea and process both in the United States and Internationally (C1 to C7) [Fig. 6]. The practical applications (10.1 to 10.14) (Claims 1 to 10) of the computer-related invention disclosed are statutory subject matters. The invention, specifications, drawings, descriptions and steps claimed herein are intended by the inventor to be fully consistent with the Freeman-Walter-Abele test; statutory subject matters under Section 101 of the Patent Act; and current understanding of United States and International laws including 35 U.S.C. 101; 35 U.S.C. 102; 35 U.S.C. 103; 35 U.S.C. 112 including the 2nd and 6th paragraphs; 35 U.S.C. 154 including section (d) Provisional Rights as applicable; and is intended by the inventor to be in compliance with every statutory requirement and criteria including any binding precedents of the United States Supreme Court, the U.S. Federal Circuit; the Federal Circuit's predecessor courts; and international laws or courts not listed. The ideas, processes, and specific future technologies

disclosed throughout these specifications and claims were conceived of (**B2**) and belong exclusively to the inventor (**C**).

Claim 10 of 10

I claim the invention is a better form of search, organization and identification for data, data arrangements, advanced networks of machines and for people. I claim the invention will be useful to investigate, create, and manipulate new and old ideas and map knowledge and historical comprehension over time across cultures and domains, and not only claim the practical applications indicated in (**Claims 1 to 9**) and (**10.1 to 10.4**), but also claim that the invention in its current embodiment will prompt, inspire and enable additional techniques and future technologies to distribute, implement and expand the invention's usefulness through additional practical applications as indicated below in (**APPENDIX A**). Tools, systems, and methods that may be claimed to have been prompted by the invention, its implementation and usefulness follow a mathematical and perceptual process summarized in (**1.25**) (**2.13**) (**3.38**) (**4.18**) (**6.10**) (**7.49**) (**8.26**) (**9.22**) that includes but is not limited to: measurement, evaluation, testing, authentication, calibration, analysis, interpretation, exploration, vision, generation, conversion, translation, transformation, logic, purification, error and consistency detection, tuning, classification, registry, identification, recognition, composition, consolidation, masking, similarity measures, redundancy elimination, error detection and correction, visualization, design, imaging, modeling, simulation, drawing, recording, processing, compression, decompression, distribution, cryptography, navigation, communications, transmission, signaling, preservation, and other research, educational, entertainment or business products and practices that use techniques discovered using the invention. As indicated in Section (**C**) and [**Fig. 6**], future techniques and technologies associated with the invention will be developed: by the inventor; with formal research partners; and in cooperation with other inventors and/or their research partners identified by searching patents and existing inventions related to the future technology that has been prompted, necessitated or inspired by the invention. Especially because the forms and patterns generated, perpetuated and interpreted through the invention reside in a stateless, constantly updating space without electricity or a capturing media - it is possible existing and new inventions in the enumerated classes (including subclasses which are not listed) below originally served a different purpose, or the existing subject matters and inventions within these classifications were conceived of and made for reasons that may initially seem unrelated, but in fact, are related because the invention will give us new ways to understand, new ways to look, measure, connect, break apart, demonstrate and control data and data arrangements using virtual forms and patterns that people may not have found ways to control using 'real' patterns, forms, languages and processes.

APPENDIX A

The classes below indicate most of the inventor's field of search. **Bold** indicates the inventors own assessment of the most appropriate classifications, *Italic* indicates future technologies in conceptual and/or early practical development by the inventor, plain are classifications that may have applications related to the invention's future embodiments.

US Classifications:

033 Geometrical Instruments
      33/356 ·· Error indicator, preventor, or compensator
      040 Card, Picture, or Sign Exhibiting
073 Measuring and Testing,
      073/227 . Area-velocity integrating
      073/498 . Adjusting means for reading structure
      073/514.26 ... Optical sensor
      073/514.27 .... Frequency or phase shift
      073/527 . With input means
      073/531 .. With transmission adjustment means
075 Specialized Metallurgical Processes, Compositions for Use Therein, Consolidated Metal Powder Compositions, and Loose Metal Particulate Mixtures
084 Music
      084/464R . Producing color or light effects
      084/600 . Musical tone generation
      084/603 ....Sampling
      084/607 .....Recursive algorithm
      084/613 ......Chords
      084/623 .....Time varying or dynamic fourier components
      084/624 ......Modulation
      084/625 .....Mixing
      084/634 ....Accompaniment
      084/635 ....Rhythm
      084/637....Chords
      084/645 ...MIDI
      084/649 ...Note sequence
      084/650 ....Accompaniment
      084/656 .....Priority or preference circuits
      084/660 .....Mixing
      084/662 ...Expression or special effects
      084/669 ....Chords
      084/670 ...Constructional details
      084/DIG9 Filtering
116 Signals and Indicators
128 Surgery
137 Fluid Handling
156 Adhesive Bonding and Miscellaneous Chemical Manufacture
181 Acoustics
178 Telegraphy
194 Check-Actuated Control Mechanisms
201 Distallation: Processes, Thermolytic
203 Distallation: Processes, Seperatory

204 Chemistry: Electrical and Wave Energy

209 Classifying, Separating and Assorting Virtual Solids

210 Liquid Purification or Separation

235 Registers for data bearing records which may include selective display

236 Automatic Temperature and Humidity Regulation (particularly museum object conservation)

250 Radiant Energy

        250/341.7 ....With multiple sources

257 Active Solid-State Devices (e.g. Transistors, Solid-State Diodes)

        257/195 ... Combined with diverse type device

        257/282 ... Gate closely aligned to source region

        257/531 .. Including inductive element

        257/661 Superconductive contact or lead

260 Chemistry or Carbon Compounds

273 Amusement Devices: Games

313 Lamp and Discharge Devices

318 Motive Power Systems

        318/573 ....With interpolating means

326 Digital Logic Circuitry

        326/52 Exclusive Function

        326/93 Clocking or Synchronizing or Logic States or Gates

327 Nonlinear Devices Circuits and Systems

        327/13 . By shape

        32715 ... With direction

        327/16 .. Having feedback

        327/17 .. With reference signal

        327/24 .. Edge sensing

        32739 . By frequency

        327/41 ... With synchronous detection

        327/42 ... Fixed frequency reference signal

        327/54,67,87,146,323, 332,345,358,363 .... Having feedback

        327/94 Waveform generation

        327/100 Signal Converting, Shaping or Generating

        327/106 Having stored waveform data

        327/211 .....With clock input

        327212 ...With clock input

        327/291 . Clock or waveform generating

        327/336 Specific Input to Output Function

        327/336 . By integrating

        327/346 . Exponential

329 Demodulators

330 Amplifiers

331 Oscillators

332 Modulators

333 Wave Transmission Lines and Networks

334 Tuners

340 One or more Devices to Control a Plurality of Results

341 Coded Data Generation or Conversion

        341/4 . According to nonlinear function

        341/8 . Real and complementary patterns

        341/9 . Having combined (e.g., combination code) coding pattern

        341/13 . Optical

        341/14 .. Having optical waveguide

        341/17 . Actuated by physical projection

        441/28 .. For pictorial or ideographic characters (e.g. characters)

        341/50 Digital code to digital code converters

        341/51 . Adaptive coding

341/52 . To or from particular bit symbol

341/54 .. Bit represented by discrete frequency

341/55 . Substituting specified bit combinations for other prescribed bit combinations

341/56 . To or from multi-level codes

341/60 . To or from packed format

341/67 . To or from variable length codes

341/72 .. To or from delay modulation code

341/75 . To or from nonlinear codes

341/76 . To or from differential codes

341/78 . Programmable structure

341/81 . To or from interleaved format

341/82 . To or from mixed code formats

341/89 . Reversible converters

341/90 . To or from alphanumeric code formats

341/94 . With error detection or correction

341/106 . Coding by table look-up techniques

341/109 Stochastic techniques

341/111 Phase or time of phase change

341/113 .. Coarse and fine

341/125 . Sampled and held input signal with nonlinear return to datum

341/132 . Detecting analog signal peak

345/133 . With particular solid state devices

341/138 . Nonlinear

341/141 . Multiplex

341/142 . Converter is part of control loop

341/143 . Differential encoder and/or decoder

341/144 . Digital to analog conversion

341/145 .. Coarse and fine conversions

341/146 .. Serial conversion

341/147 .. Function generator

341/156 .. Coarse and fine conversions

341/157 .. Intermediate conversion to frequency or number of pulses

341/163 ... Recirculating

341/200 Quantizer

341/899 Miscellaneous

342 Communications, Directive Radio Wave Systems

345 Computer Graphics Processing, Operator Interface Processing, and Selective Visual Display Systems

345/2.2 .. Presentation of similar images

345/27 . Combined with storage means

345/53 .... Specific waveform

345/81 ... Optical addressing (e.g., photodetection)

345/93 ..... Redundancy

345/98 .... Specific display element control means

345/94 .... Waveform generation

345/162 .. Positional storage means

345/166 ... Optical detector

345/171 .. Having foreign language capability

345/175 .. Including optical detection

345/176 .. Transparent substrate having light entrapment capability

345/177 .. Including surface acoustic detection

345/178 .. With alignment or calibration capability

345/207 . Light detection means

345/208 . Waveform generator coupled to display elements

345/212 .. Regulating means

345/213 .. Synchronizing means

345/214 Controlling the condition of display elements

345/418 *Computer Graphics Processing*
345/419 . *Three-dimension*
345/420 .. *Solid modelling*
345/421 .. *Hidden line/surface determining*
345/422 ... *Z buffer (depth buffer)*
345/427 .. **Space transformation**
345/428 . **Adjusting level of detail**
345/440 . **Graph generating**
345/440.1 .. **Real-time waveform display**
345/441 . **Shape generating**
345/442 .. **Curve**
345/467 . **Character generating**
345/468 .. **Character geometry processing**
345/469 ... **Character generation using control points or hints**
345/469.1 .. **Character border**
345/472 and 660 ... **Scaling**
345/472.3 ..*Calligraphic*
345/473 . *Animation*
345/475. **Temporal interpolation or processing**
345/535 .. **Memory arbitration**
345/537 .. *Data transfer between memories*
345/538 .. *Transfer between system memory and graphics display memory*
345/541 . **Shared memory**
345/542 .. **Unified memory architecture**
345/549 .. **Color memory**
345/505 . **Parallel processors**
345/543 . *Memory allocation*
345/544 . *Memory partitioning*
345/546 ..*Multi-format frame buffer*
345/549 .. **Color memory**
345/551 .. **Character memory**
345/552 . **Texture memory**
345/554 . *Multi-port memory*
345/555 . *For storing compressed data*
345/559 . **Register**
345/561 . **Logical operations**
345/563 .. **Mask data operation**
345/564 . **Addressing**
345/565 .. **Using memory for storing address information**
345/567 ... *Using decoding*
345/568 ... **Address translation**
345/572 .. **Address generator**
345/581 . **Attributes (surface detail or characteristic, display attributes)**
345/582 .. **Texture**
345/585 ... **Non-planar surface**
345/586 ... **Mathematically defined**
345/588 ... **Repeating pattern**
345/589 .. *Color or intensity*
345/591 ... **Color processing in perceptual color space**
345/592 ... *Transparency (mixing color values)*
345/593 ... *Color selection*
345/594 .... *Using GUI*
345/595 .... **Expert system or AI**
345/597 .... **Color**
345/598 and 599 ..... **Spatial**
345/600 ... *Color bit data modification or conversion*

345/601 .... Using look up table
345/602 ..... Plural look up tables
345/603 .... Format change
345/606 .. Interpolation of attribute values across object surface
345/607 ... In perspective
345/611 .. Anti-aliasing or image smoothing
345/613 ... Subpixel processing
345/614 ... Pixel fragment
345/615 ... Convolving technique
345/617.. Contrast
345/619 . Graphic manipulation (object processing or display attributes)
345/621 ... Based on model of objects
345/622 .... Testing or using bounding shape
345/625 ... Based on image data
345/626 .... Masking
345/627 .... Non-rectangular array
345/629 .. Merge or overlay
345/631 ... Reducing redundancy
345/632 ... Placing generated data in real scene
345/633 .... Augmented reality
345/634 ... Image based
345/636 .... Character and graphics
345/637 .... Priority based
345/641 .... Fixed overlay pattern
345/642 .. Picking
345/643 .. Arithmetic processing of image data
345/645 ... Hierarchy of transformations
345/648 .. Affine
345/649 .. Rotation
345/650 ... Graphical user interface tools
345/651, 662 and 677 .... Alignment functions (e.g., snapping, gravity)
345/652 and 678.... Constrained manipulations (e.g., movement in less than all dimensions)
345/653, 664 and 679 .... 3D manipulations
345/655 and 681 ... Object based
345/656, 667 and 682 ... Image based (addressing)
345/657 .... By arbitrary angle
345/661... Graphical user interface tools
345/668 ..... By arbitrary ratio
345/672 .. Translation
345/673 ... Averaging technique
345/686 ..... Memory addressing
345/687 ...... Smooth or continuous
345/691 .. Temporal processing
345/694 .. Spatial processing (e.g., patterns or subpixel configuration)
345/696 ... Changing of subpixel location over time
345/697 .. Including optical means
345/700 Operator Interface
345/703 . Cultural based
345/707 .. Adaptive to user skill level
345/708 .. Context sensitive
345/712 ... Topic roadmap or index
345/713 .... Hierarchical
345/716 . On screen video or audio system
345/717 .. Multiple diverse systems
345/721 ... Indexed control
345/731 .. Authoring tool

345/733 . For plural users or sites (e.g., network)

345/734 .. Interactive network representation of devices (e.g., topology of workstations)

345/736 ... Network managing or monitoring status

345/737 ... User navigation between devices

345/738 .. Network resource browsing or navigating

345/739 ... Selecting from a resource list

345/740 .. Remote operation of computing device

345/741 .. Access control or permission

345/746 ... Interface conversion

345/748 . User interactive multicomputer data transfer

345/749 .. Downloading remote executables

345/751 . Computer supported collaborative work between plural users

345/753 .. Computer conferencing

345/757 ... Virtual 3D environment

345/758 ... Chat room

345/760 . Mark up language interface

345/763 .. Graphical or iconic based (e.g., visual program)

345/765 .. Customizing multiple diverse workspace objects

345/767 .. Focus control of multiple diverse workspace objects

345/768 .. Translucency or transparency interface element (e.g., invisible control)

345/769 .. Data transfer operation between objects

345/771 .. Instrumentation and component modeling

345/772 ... Progress or activity indicator

345/774-777 Visual metaphors for various objects and indexing

345/781 .. Window or viewpoint

345/783 ... On-screen window list or index

345/786 .... Scroll tool (e.g., scroll bar)

345/787 ..... With content attributes on scroll tool

345/788 ... Layout modification

345/794 ..... Priority or overlap change

345/798 .... Combining moving and resizing operations

345/800 .... Resizing (e.g., scaling)

345/801 ..... Contained object scale change

345/802 ... Focus control

345/806 ... Window memory structure

345/807 .... Stored priority attribute

345/808 .. Pop-up control

345/809 .. Dialog box

345/810 .. Menu or selectable iconic array

345/816 ... Partial input lookup (e.g., partial string lookup)

345/817 ... Context location indication

345/821 ... Emphasis

345/825 ... Dynamically generated menu items

345/828 ... Partial menu display

345/829 .... Advancing to next menu item in the same menu

345/835 ... Selectable iconic array

345/836 .... 3D icons

345/837 .... Compound or aggregate icon

345/838 .... Thumbnail or scaled image

345/839 .... Imitating real life object

345/846 .. Non-array icons

345/847 ... Shortcut

345/848 .. Interface represented by 3D space

345/849 ... Individual object

345/850 ... Navigation within 3D space

345/853 .. Hierarchy or network structure

360/13 Record Editing
360/29 Modulating or demodulating
360/30 Frequency
360/31 Monitoring or testing the progress of recording
360/39 General processing of a digital signal
362: Illumination
363 Electric power conversion systems
    363/17 ... Bridge type
    363/49 . With starting arrangement
    363/95 ... For inverter
    363/98 ..... For bridge-type inverter
365 Static Information Retrieval
    365/189.01 Read/Write circuit
    365/194 .. Delay
    365/203 . Precharge
    365/205 . Flip-flop used for sensing
    365/210 .... Reference or dummy element
367 Communications acoustic wave systems
    367/7 Acoustic image conversion
    367/11 . With memory means
    367/13 Testing, monitoring, or calibrating
    367/27 .. Time interval measurement
    367/28 .. Amplitude measurement
    367/30 ...Amplitude comparison
    367/32 ...Frequency dependent determination
    367/38 .. Signal analysis and/or correction
    367/39 ... Random signal correlation
    367/48 ...Phase
    367/51 ... Dynamic timing correction
    367/59 ... Compositing system
    367/60 ... Special digital system
    367/64 ... Optical processing
    367/93 . Presence or movement only detection
368 Horology: Time measuring systems or devices
    368/14 . Navigational instrument
    368/21 Plural time zones
    368/56 .. By signal frequency change
    368/57 .. By signal amplitude change
    368/58 .. By signal polarity change
    368/68 . With intensity control of display
    368/79 .. Optical
    368/243 Signaling means
369 Dynamic Information Storage and Retrieval
    369/5 . One of systems having plural connections
    369/30.44 ......Of carousel library system
    369/53.35 ... Signal error correcting or detecting
    369/59.26 ... Energy producing device
370 Multiplex communications
372: Coherent Light Generators
375 Pulse or digital communications
    375/138 . Time hopping
    375/140 . Direct sequence
    375/149 ... Having specific code synchronization
    375/240.03 ... Quantization
    375/240.18 .. Transform
378: X-Ray or Gamma Ray Systems or Devices

379 Telephonic Communications
380 Crytpography
        380/38 . Frequency shift or inversion
        380/42 . Data stream/substitution enciphering
        380/59 Miscellaneous
        380/206 .. Masking of synchronization signal
        380/209 .. Masking signal selectively addressed
        380/216 .. Image data converted to digital before modification
        380/217 and 269 ...Having compression
        380/221 .. By modifying synchronizing signal
        380/263 ... Nonlinear or chaotic system
        380/270 . Wireless communication
381 Audio Systems
        381/63 . Reverborators
        381/83 .. Feedback suppression
382 Image Analysis
        382/106 . Range or distance measuring
        382/107 . Motion of velocity measuring
        382/108 . Surface texture or roughness measuring
        382/113 . Reading maps, graphs, drawings or schematics
        382/116 .. Using a combination of features
        382/117 .. Using a characteristic of the eye
        382/144 .. Mask inspection
        382/148 ...At plural magnifications or resolutions
        382/149 ...Fault or defect detection
        382/151 ...Alignment, registration, or position determination
        382/154 . 3-D or stereo imaging analysis
        382/241 . Polygonal approximation
        382/158 ...Network structures
        382/159 . Trainable classifiers or pattern recognizers
        382/160 .. Generating a standard by statistical analysis
        382/168 Histogram processing
        382/170 . With pattern recognition or classification
        382/177 . Segmenting individual characters or words
        382/180 . Region labeling
        382/184 Pattern Recognition with separate timing or alignment marks
        382/185 . Ideographic characters
        382/190 . Feature extraction
        382/191 .. Multispectral features
        382/195 .. Local or regional features
        382/199 ...Pattern boundary and edge measurements
        382/203 ...Shape and form analysis
        382/204 ...Topological properties
        382/205 ... Local neighborhood operations
        382/206 ...Global features
        382/207 .. Waveform analysis
        382/209 . Template matching
        382/210 .. Spatial filtering
        382/213 .. Using both positive and negative masks or transparencies
        382/215 .. Using dynamic programming or elastic templates
        382/216 .. At multiple image orientations or positions
        382/219 ... Determining both similarities and differences
        382/224 . Classification
        382/225 .. Cluster analysis
        382/225 Sequential decision process
        382/227 ...With a multilevel classifier

382/229 . Context analysis or word recognition
382/235 . Substantial processing of image in compressed form
382/239 . Adaptive coding
382/240 . Hierarchy structure
382/243 . Shape, icon, or feature-based compression
382/247 .. Arithmetic coding
382/248 . Transform coding
3882/249 .. Fractal
382/251 . Quantization
382/256 . Object boundary expansion or contraction
382/260-265 . Filters
382/266 . Edge or contour enhancement
382/267 .. Minimize discontinuities in dot-matrix image data
382/268 .. Minimize discontinuities at boundaries of image blocks
382/275 . Artifact removal or suppression
382/277 . Transforming each dimension separately
382/278 . Correlation
382/279 . Convolution
382/280 . Fourier transform
382/282 . Selecting a portion of an image
382/283 .. Using a mask
382/288 ...Determining center of gravity or moment
382/291 .. Determining the position of an object
382/294 .. Registering or aligning multiple images to one another
382/298 .. To change the scale or size of an image
382/299 ... Raising or lowering the image resolution
382/300 ....Interpolation
382/302 . Multilayered image transformations
382/304 .. Parallel processing
382/305 . Image storage or retrieval
382/325 Miscellaneous
385 Optical Waveguides
    385/122 Having nonlinear properties
    385/141 Having particular optical characteristics
396 Photography
423: Chemistry of Inorganic Compounds
434 Education and Demonstration
    434/236
    434/322
451 Abrading
455 Telecommunications
    455/445
    455/560
463 Amusement Devices: Games
471 Multiple Controlled Elements
472 Amusement Devices
480 Interconnected Multiple Controlling Systems
505 Superconductor Technology
512: Perfume Compositions
530: Chemistry: natural Resins or Derivatives; Peptides or Proteins; Lignins or Reaction Products Thereof; All aspects of every part of Organic Compounds within the Class 532-570 Series
600 Surgery
    600/27 . Sensory
700 Data Processing: Generic Control Systems or Specific Applications
    700/5 ... Shared memory
    700/50 .. Fuzzy logic

700/89 . Having specific algorithm

700/97 .. Design or planning

700/104 .... Knowledge based

700/125 .....Having a reference mark or pattern

700/163 .... 3-D sculpturing using nontracing prototype sensor

700/236 ....Data collection or reporting

700/246 ..Combined with knowledge processing

701 Data Processing: Navigation and Relative Location

701/28 .. Having image processing

701/221 ... with correction by noninertial sensor

702 Data Processing: Measuring, Calibrating or Testing

702/5 .. Topography

702/20 .. Gene sequence determination

702/21 .. Cell count or shape or size analysis

702/36 ... Location

702/66 .. Waveform analysis

702/67 ... Display of waveform

702/70 ... Waveform extraction

702/71 ... Waveform to waveform comparison

702/72 .... Phase comparison

702/73 .... Identification of waveform

702/77 ..... Using Fourier method

702/79 .. Time-related parameter

702/80 .. Specified memory location generation for storage

702/94 . Position measurement

702/124 . Signal generation or waveform shaping

702/126 .. Signal conversion

702/137 . Density

702/140 .. Within an enclosure

702/147 ... Specific mathematical operation performed

702/149 .. By distance or time measurement

702/167 .. Contouring

702/180 .. Histogram distribution

702/186 .. Computer and peripheral benchmarking

702/190 .. Signal extraction or separation

702/194 .... By mathematical attenuation

702/195 .... Subtracting noise component

703 Data Processing: Structural Design, Modeling, Simulation and Emulation

703/1 Structural Design

703/2 Modeling by Mathematical Expression

703/23 Emulation

703/27 . Compatibility emulation

704 Data Processing: Linguistics and Translating

704/1 Linguistics

704/7 .. Storage or Retrieval

704/9 . Natural Language

704/10 . Dictionary building

704/243 .. Creating patterns for matching

704/244 ... Update patterns

704/245 ... Clustering

704/255 ... Specialized models

704/256 .... Markov

704/257 .... Natural Language

704/258 . Synthesis

704/260 .. Image to Speech

704/266 .. Specialized model

704/268 .. Frequency element
704/269 .. Transformation
704/276 .. Pattern display
704/277 .. Translation
705 Data Processing: user interface specific to business
    705/1 Automated financial or business practice
    705/27 .. Presentation of an image or description of sales item
706 Data Processing: Artificial Intelligence
    706/4 . Digital fuzzy computer
    706/5 . Having function generator
    706/11 Having particular user interfact
    706/12 Machine learning
    706/13 . Genetic algorithm
    706/14 Adaptive system
    706/21 .. Prediction
    706/45 Knowledge Processing System
    706/46 . Knowledge representation and reasoning technique
    706/47 .. Rule-based reasoning
    706/48 .. Having specific management of a knowledge base
    706/49 .. Blackboard system
    706/50 .. Having specific management of a knowledge base
    706/51 . Non-monotonic reasoning system
    706/52 .. Reasoning under uncertainty
    706/53 .. Frame based reasoning system
    706/54 .. Analogical reasoning system
    706/55 .. Semantic network
    706/56 .. Predicate logic or predicate calculus
    706/57 .. Propositional logic
    706/58 .. Temporal logic
    706/59 . creation or modification
    706/60 .. Expert system shell
    706/61 .. Knowledge acquisition by a knowledge processing system
    706/62 Miscellaneous
    706/801 Related work
    706/900 Fuzzy Logic
707 Data Processing: Data Structure, subclasses 1-10 for database specific user interface
    707/1 Database or file accessing
    707/2. Access augmentation
    707/3 . Query processing
    707/4 .. Query formulation
    707/5 .. Query augmentation
    707/6 .. Pattern matching
    707/7 . Sorting
    707/8 . Concurrency
    707/9 . Privileged access
    707/10. Distributed or remote access
    707/100 Database schema
    707/101 . Manipulating data structures
    707/102 . Generating data structures
    707/103R . Object oriented database structure
    707/103Y . Object oriented database processing
    707/103X . Object oriented database network
    707/103Z . Object oriented database reference
    707/104.1 . Application of data structure
    707/201 . Coherency
    707/203 .. Version management

707/204 .. Archiving

707/205 . File allocation

707/206 .. Garbage collection

707/500 Related work

707/501 and 501.1 Related work

707/503 Related work

707/505; 513 to 517; 526; 530 to 531 Related work

708 Arithmetic Processing and Calculating

708/111 .. Horological

708.208 .. Scaling

708/272 ... Memory used to store waveshape

708/304 ... Nonlinear

708/308 ... Multi-dimensional data

708/317 ... Wave

708/401 .. Multidimensional

708/403 ... Fourier

708/404 .... Fast Fourier Transform

708/405 .... Discrete Fourier Transform

708/424 ... Multidimensional data

708/426 ... Autocorrelation

708/424 ... Multidimensional data

708/441 ... Vector resolver

708/492 ... Galois field

708/493 ... Multi-valued

708/494 ... Incremental mode

708/506 .... Feedback

708/530 ... Error detection or correction

708/531 .... Parity check

708/532 .... Residue code

708/533 .... Sequential repetition

708/534 .... Plural parallel devices

708/553 ..... Prediction

708/622 .... Complex number format

708/632 ....Feedback

708/671 .... Comparison

708/801 . Particular function performed

708/819 .. Filtering

708/820 .. Transform

708/821 ... Fourier

708/822 .. Differentiation

708/823 .. Integrator

708/845 .. Function generation

709 Multicomputer data transferring

709/200 Transferring

709/201 . Distributed data processing

709/202 .. Processing agent

709/206 .. Demand based messaging

709/213 . Multicomputer data transferring via shared memory

709/215 .. Partitioned shared memory

709/217 . Remote data accessing

709/218 .. Using interconnected networks

709/219 .. Accessing a remote server

709/220 . Network computer configuring

709/221 .. Recongfiguring

709/223 . Computer network managing

709/224 .. Computer network monitoring

968/152 ...With several separate scales

968/201.. Different kinds of data indicating devices

968/205 ... successive steps by means of an energy source/freed at the determined moment

968/233 .. Stopping means

968/238 .. With course and fine setting of pre-selected times

968/252 . Stepwise or on determined value

968/285 . Circular calibers

968/290 . For extremely long running times

968/381 Special effects

968/414 Timepieces using astronomical observations

968/524 Driving mechanisms for master clocks

984 Musical Instruments

984/389 .. Using a common processing for different operations or calculations

D14: Recording, Communication or Information Retrieval Equipment

D18: Printing and Office Machinery

D24: Medical and Laboratory Equipment

International Classifications:

A61B 19/00; B24C 1/04; B25J; B44F; F21W; F21Y; G01B 11/26; G01C 1/00, 21/00; G01D; G01F 1/00; G01H 1/00, 1/12, 1/38; G01J 1/00; G01N 21/87, 33/00; G01P 15/08, 3/00; G01R 23/16; G01V 1/30; G02F 1/365; G03B 27/08, 21/00, 21/14, 21/26, 21/28; G03F; G04B 13/00G2; G04F; G04G; G05B 19/02; G05D; G06C; G06F 3/00, 7/00, 7/10, 7/16, 7/70, 9/44, 9/45, 9/445, 11/00, 12/02, 13/00, 13/10, 13/38, 15/00, 15/16, 15/18, 15/30, 15/57, 17/00, 17/21, 17/24, 17/27, 17/30, 17/60; G06G 9/44; G06K 9/00; G06M;

G06N 003/04, 5/00; 5/22; G06T 1/00, 9/20, 11/00, 11/20, 11/40; G06J; G06K 9/74; G07C; G07F 19/00; G08B; G09B 1/00; G09C; G09G 5/00; G10H 1/00, 1/06, 1/12, 1/38, 7/00; G11B; G11C 7/00; H01P; H02M 7/517; H03G 3/00; H03K 19/096; HO3M 5/00, 13/00; H04B 1/20; H04L 1/00, 7/00, 09/00, 27/26M1A, 1/00A1M, 1/00A3, 1/00A5, 1/00A7, 1/00B1, 1/00B2, 1/00B2B; H04M; H04N 1/00, 1/40, 5/04; H04Q

H07L 31/038.2; S01C; S01D 3C3, 3C5; S04; T01; T02; T03; T04; T05; T06; T07; U14; U21

Unless expressly permitted by the inventor the invention may not be used for International Classification W07: Military Equipment and Weapons; or US Classifications D22: Arms, Pyrotechnics, Hunting and Fishing Equipment; 086: Ammunition and Explosive-Charge Making; 089: Ordnance; 042: Firearms; 102: Ammunition and Explosives; 124: Mechanical Guns and Projectors; 149: Explosive and Thermic Compositions or Charges; and 473: Games Using Tangible Projectile.

– CONCLUSION OF CONTEXT DRIVEN TOPOLOGY SPECIFICATIONS –
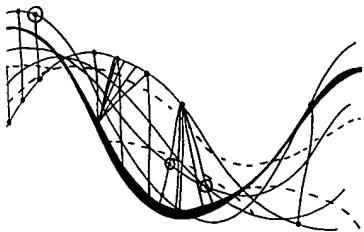
U.S. Application Number: 10/803,040   **(3 of 7)**
Filing Date: 03/18/2004
Inventor: Deborah L. MacPherson
118 Dogwood St, Vienna VA 22180
Phones 703 242 9411 and 703 585 8924
Title of Invention: **Context Driven Topologies**

Drawings

DRAWING CONCEPTS [Reference 37 CFR 1.84 and 37 CFR 1.121]:

The drawings in this disclosure are set of illustrations intended to clearly identify and show the features, parts, processes, and actions that are unique to this invention. The subject matter of this invention is relationships between ideas and knowledge over time, therefore, drawing standards to indicate material composition do not apply. However, the organizing, filtering, and display techniques disclosed within the specification are designed to use information patterns, such as drawing standards of material composition and relationships between parts, to classify and retrieve drawings and other non-text data with related documents in the future. See the Claims and (5 of 7) Petition to the Examiner for more information.

The invention generates a limitless series of mathematical and perceptual patterns of infinite dimensions and variations, there is no one exact contour, appearance, or single image of trade knowledge to portray within these illustrations. However, when the invention is used in the future, the topology of each contour, appearance, and image of trade knowledge is very precise; recording and interpreting the changes and variations in these contours, appearances, and images of trade knowledge over time is the process that makes the invention unique.

Examples of these patterns are shown in the Drawings using a "wireframe" view showing only the underlying structure. See Specification **G**, Section 7, Use of the Automatic Evolving Audio and Visual Language and Display Patterns for a detailed description of Context Driven Topologies as they are used to show more detailed relationships between parts, wholes, context, and incremental changes over time.

The views in Figures 8 to 10 show ideas, relationships, sequences, and referencing by using the content of the specification itself to illustrate Context Driven Topologies in their various states for the simple reason that this Specification is the only knowledge that the inventor and patent examiner definitely share. All of the Drawings, and especially Figures 8 to 10, are intended to be strongly defensive of the Claims.

Due to the multi-dimensional, non-linear, and dynamic nature of Context Driven Topologies versus two static dimensions on paper, the Drawings do not have a scale or upright position and were not created in plan, elevation, or section views as architectural drawings typically are. Nor is it possible to label which views are enlarged, within the outline of another, or to assess whether the views on any one page are standing in the same direction.

Nevertheless, there are clear relationships between views and the content of the specification overall as explained in F2 and indicated on each individual Drawing by a corresponding number in a circle. Each of the detailed drawing descriptions also references the text of the detailed disclosure as indicated by *(italic in brackets)*. If a map of these references was made, it would be a Context Driven Topology connecting specific drawings to specific text in a certain order. This map would form a record, the invention uses the topology of this record to identify, extract, and regenerate specific drawings and other non-text data with its associated text, or vice versa. See (5 of 7) Petition to the Patent Examiner for a proposal of how the invention may be used within the USPTO system to connect drawings with text and other purposes.

The wave forms in Figure 10C and the front page drawing are not possible to draw accurately in two static dimensions. The pace, rotations, densities, magnification, and relationships of these curved lines and amplitudes are not able to show the relative timing in detail because these are ink drawings fixed in one position at one size as one color and texture on a sheet of paper. A unique feature of these waveforms and the invention that non-matching waveforms can be controlled, synchronized in sections, and scaled to fit. Therefore, each waveform shown is not lettered or designated individually and there is no way to include vertical, horizontal or time axis without confusing the drawing. The drawing at the bottom of Figure 10C is the only whole formed by all of the previous partial views, it is unfolded and expanded in smooth dimensions that are most understandable to mathematicians and artists. It is this last drawing which really shows the invention and therefore is the inventor's preference for the front page drawing.

Center lines and projection lines could not be avoided in Figures 3, 4, 7, and 10B because they are essential to conveying these actions and methods of measurement.

The views in Figure 6 purposefully overlap because this drawing shows the path of an upcoming project with a group of theorists, mathematicians, artists, engineers, and other inventors that cannot be completely or accurately defined ahead of time. Please see www.contextdriventopologies.org for more information.

The most important deliverable of this upcoming project **[Fig.6](C)** is to generate a model of context driven relationships, special sequences, customized views, adjustable boundaries, and exploration paths by consolidating and carefully interpreting the relationships between thirty sets of original content and techniques (created by the project participants) by using the techniques disclosed within the specification.

It is the inventor's position that space is not wasted, the drawings are properly grouped and integrated with other parts of the specification including the Claims. Please notify the inventor if the USPTO does not agree.

37 CFR 1.84 [24 FR 10332, Dec. 22, 1959; 31 FR 12923, Oct. 4, 1966; 36 FR 9775, May 28, 1971; 43 FR 20464, May 11, 1978; 45 FR 73657, Nov. 6,1980; paras. (a), (b), (i), (j), and (l) amended, paras. (n), (o), and (p) added, 53 FR 47809, Nov. 28, 1988, effective Jan. 1, 1989; revised, 58 FR 38719, July 20, 1993, effective Oct. 1, 1993; paras. (c), (f), (g), and (x) revised, 61 FR 42790, Aug. 19, 1996, effective Sept. 23, 1996; paras. (a)(2)(i), (b), (c) & (g) revised, 62 FR 53131, Oct. 10, 1997, effective Dec. 1, 1997]
37 CFR 1.121 [48 FR 2712, Jan. 20, 1983, effective Feb. 27, 1983; revised, 62 FR 53131, Oct. 10, 1997, effective Dec. 1, 1997]

DRAWING ORIGINALS VERSUS DRAWING FILES

The original drawings are hand drawn in black ink using a "sharpie" ultra-fine permanent marker on arches brand acid free watercolor paper. The original hand drawings do not include reference numbers to the detailed descriptions in F2 and are not the same size, proportion, or layout to each other on the original sheets of paper as they are within the original and substitute specification. Therefore, the attached drawings and files (rather than the originals) are the most accurate.

As stated in (2 of 7) Substitute Specification, the Drawings have been renumbered to meet USPTO requirements (37 CFR 1.84 and 37 CFR 1.121) and are provided independently from the overall specification. The title, inventor's name, application number, and confirmation number have been centered on the top margin of each sheet along with the inventor's phone numbers if contact is needed to match the drawings with the proper application. See the notes above and content of the specification for more information regarding how the invention itself may be used to accomplish this task automatically.

The following drawings are attached to meet the requirements of 1.52, printed on 192g/M2 professional archival matte paper, and also provided as high resolution scans both "flattened" as .jpgs and "layered" as .psd files.
- The front page drawing (portion of Figure 10C, the last drawing)
- Figures 1 to 10 - each page corresponds to a file listed below (for example Figures 1 and 2 share a page, 10 A, B, and C each have their own page).

The scans are on the CD included with (2 of 7) Substitute Specifications The CD is titled
DMacP10 803 040
and is formatted for PC, but these files were created in Mac Photoshop. Please notify the inventor if the drawing files should be provided on a Mac formatted CD or online. The folders are named:
DMacPflattenedPhotoshop
DMacPlayeredPhotoshop
The files are named:
"DMacPFigures1and2"
"DMacPFigures3and4"
"DMacPFigure5"
"DMacPFigure6"
"DMacPFigure7"
"DMacPFigure8"
"DMacPFigure9"
"DMacPFigure10A"
"DMacPFigure10B"
"DMacPFigure10C"
The inventor's preference was for these Drawings to be inserted as full pages between F1 Breif Description of the Drawings and F2 Detailed Description of the Drawings, but the Drawings may ordered with the text in the manner that is most convenient for the USPTO, and most recognizable to people familiar with reading patents. See (5 of 7) Petition to the Patent Examiner with a formal request to verify this context, image scaling, and overall appearance are correct for the Specification of Record in various publishing and storage formats.

1.121 These amendments and modifications to renumber and identify the drawings as specified above are directed by the inventor to be made. A higher quality version is provided both as hard copies and digital files, otherwise, there are no modifications to the original Drawings.

Date: 7.1.04

by: _____
Deborah L. MacPherson, Vienna VA

State / District of _Virginia_
City / County of _Alexandria_
The foregoing instrument was acknowledged before me this 1st
day of _July_ , ~~199~~ 2004 by _Deborah L MacPherson_
Rowan Castrodale
Notary Public

Notarized by Rowan Castrodale
Notary Public Commission expires 8/31/05

My commission expires: 8-31-05